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ABSTRACT

The fourth in a series concerning some implications of a learner's cognitive style for the development of reading competence, this paper reports on a study of the oral reading miscues of field dependent and field independent above-average eighth grade readers on content area materials. Results reported indicate that field dependent below-average readers used less proficient reading strategies compared with field independent below-average readers. The paper also notes that field dependent readers made fewer corrections, fewer grammatically acceptable miscues, and more miscues reflecting loss of comprehension. It also notes that field dependent above-average readers used less proficient reading strategies when compared with field independent above-average readers, making significantly fewer miscues per hundred words, more over-corrected grammatical relations, and more correction miscues, with many of these results in reverse of the predicted direction. (MKM)

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Cognitive Style and Reading Miscues in Eighth Graders

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1. INTRODUCTION

This paper is the fourth in a series concerning some implications of a learner's cognitive style for the development of reading competence. In the first paper (Scott and Annesley, 1976), presented at the Sixth World Congress on Reading in Singapore, 1976, cognitive style was defined as "the 'modes' an individual uses in perceiving, organizing and labelling aspects of his/her environment" (p.3).

Nine dimensions of cognitive style, as defined and described by Messick (1970) were identified. A review of the literature, updated in this paper, suggested that two of the dimensions, *field dependence-field independence* (e.g. Annesley, 1971; Frehner, 1973; Gluck, 1973; Robinson and Gray, 1974; Cox, 1975; Maher, 1979, Christiansen *et al.*, 1980) and *reflectivity-impulsivity* (Kagan, 1965; Roettger, 1971; Erickson, 1974) are significantly related to reading achievement. Field dependent children tend to make global responses to phenomena and have been shown to have a lower level of reading achievement than their counterparts - field independent children who tend to perceive things analytically. Impulsive learners tend to select hypotheses and process information without reflection and they too have been shown to have a lower level of reading achievement than their counterparts - reflective children who tend to take more time and be more thoughtful in selecting hypotheses and processing information.

Emerging from that paper are two major questions of concern to the present authors. First, what are the process relationships between cognitive style phenomena and the development of reading competence and second, what are the implications of these relationships for the design of the reading curriculum in terms of scope, format, content and teaching strategies?

The second paper in the series (Annesley and Scott, 1977) was presented at the Eighth Annual New Zealand Reading Conference in Palmerston North, 1977. In that paper the relationship between cognitive style and reading achievement was pursued further, with attention being given to such critical factors as the stability, pervasiveness and flexibility of cognitive style functioning. The evidence reviewed in that paper suggested that there is a high consistency of cognitive style functioning across time (Bauman, 1951; Witkin *et al.*, 1962 and 1967; Faterson and Witkin, 1970). Similarly the pervasiveness of cognitive style functioning has been argued by Witkin *et al.*(1977). However, it was noted that Frickson (1974) stressed that cognitive style dimensions are fluid and adjustable rather than fixed - an observation of significance given the evidence of a relationship between cognitive style and reading ability.

Particular attention was given in the second paper to the likely contribution of Hill's (1971) concept of

cognitive mapping to understanding the development of reading ability. It was argued that, on the surface, a learner's cognitive profile, as determined from cognitive mapping, appeared a valid independent variable in reading competence for it focussed on critical factors in achieving meaning, viz. perception of stimuli, cultural influences on interpretation and reasoning processes. It was noted that much research needs to be done on the cognitive mapping model and that the present authors, as a first step, are currently attempting to validate the concept.

The second paper also made it clear that with respect to reading research we must begin to look beyond the question of "what has the child learned?" to the more fundamental question of "how does the child learn?" - a question that concerns itself with process rather than product and is explored with reference to reading in the present paper and in that by Christiansen *et al.* (1980).

The third paper in the series (Annesley *et al.*, 1978), presented at the Fourth Australian Reading Conference in Brisbane 1978, reported on stage one of a major study with a three fold objective, viz.

(1) to ascertain the relationship between the field dependent-field independent cognitive style dimension and general reading achievement in young adolescents;

(2) to ascertain the relationship between cognitive style and reading 'error' types (particularly in reading in the content areas) in young adolescents;

(3) to evaluate the effectiveness of cognitive style information in prescribing remedial programs, including appropriate reading materials for specific typologies of young adolescent below-average readers.

For the purpose of the study reported, field dependence-field independence was measured through Witkins' Group Embedded Figures Test (GEFT) and general reading achievement was restricted to the two dimensions, Reading Comprehension and Reading Vocabulary, of the Progressive Achievement Test (PAT)(1973), Form A. The study involved a sample of 899, or approximately 84%, of the population of Grade 8 students in Townsville (Australia) - a city of a population of 105,000. Local norms for the focal variables were generated for use in the study. The results of the study failed to replicate American studies (see Witkin *et al.*, 1977) which have reported a significant difference in cognitive style between adolescent males and females - with females being more field dependent. The Australian study indicated no significant sex differences in cognitive style for young adolescents. However,

significant correlations were observed between cognitive style and verbal intelligence (as measured on the Otis test) +0.51, cognitive style with reading vocabulary +0.47 and with comprehension +0.46.

It was observed that the correlations between cognitive style and the respective measures of reading achievement should be interpreted with caution because of the confounding effect of the relationship between cognitive style and verbal intelligence.

Following the study reported in the third paper, two further studies were initiated, viz.

(1) a study of the oral reading 'error' types (according to Goodman's miscue analysis) of field dependent and field independent above and below average readers on Social Science (History) and Biological Sciences (Biology) type material;

(2) a study of the silent reading miscues of field dependent-field independent below average readers, of average intelligence, on graded reading passages at independent, instructional and frustrations levels of difficulty using conventional cloze procedures.

The remainder of this paper is devoted to a report of the first study, while the fifth paper in the series (Christiansen, *et al.*, 1980), to be presented later in this session by Janet Christiansen, reports the second study.

2. COGNITIVE STYLE AND READING MISCUES

The Problem

A review of the literature on cognitive style and reading (see Maher, 1979) provided a framework and rationale for an exploratory study of the relationship between field dependent-field independent cognitive style and oral miscues of above and below average eighth grade readers using Social Science and Biological Sciences texts. The purpose of the study was to answer the following two questions:

(1) Do field dependent-field independent readers use different reading strategies as they process reading from print?

(2) Does different text material affect the reading strategies of field dependent-field independent readers?

[Note: In this study, reading strategies are defined as the ways in which subjects use graphophonic, semantic and syntactic cues to unlock the meaning of the printed text - which will be reflected in the subject's pattern of reading miscues.]

Answers to these questions were sought through the research model diagrammed in Figure 1, in which the

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Insert Figure 1 About Here

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difficulty of the reading material was matched to the reading level of the subjects. This model led to a program of analyses which we considered too complex for meaningful discussion in this context. Accordingly we have confined our presentation to one significant set of analyses, viz. the average miscue performance of above and below average field dependent (FD) and field independent (FI) readers based on the pooling of their responses to the two different types of reading materials (History and Biology).

Rationale

The study (Maher, 1979) was pursued within Goodman's psycholinguistic model of reading (in Singer and Ruddell, 1976) - noting that Goodman describes reading as a

psycholinguistic 'guessing game' involving interaction between thought and language. During the reading process, three kinds of informational cues are simultaneously available to the reader - graphophonic information, syntactic and semantic information. According to Goodman (1976), the latter is provided by the reader in terms of bringing his/her prior experience to react to the graphic input, organizing the meaning he/she is reconstructing, and sorting out his/her experiences and concepts and expressing them in the context of reading. The reader uses the three cue systems simultaneously or independently to decode print. Readers naturally become more efficient and less reliant on graphic input, if they have more conceptual knowledge or experience of the reading context. A point made by Cambourne (1977) is that, according to Goodman, reading is a process in which information flows from an 'inside-out' direction where the reader uses past experiences and syntactic and semantic information to process the visual graphic cues.

In designing the study, it was argued that as reading is not a passive perceptual task, but involves conceptual cognitive processes, it would seem reasonable to suggest that the pervasive field dependent-field independent dimension of cognitive style would have some effect on the reading process. If reading is an inside-out process, then one might argue that field dependent readers would

be less likely to use inside information in the reading task of extracting meaning from print. Consequently field dependent readers would be more likely to decode graphic-input and recode it as oral-output than would field independent readers. It also seemed reasonable to expect that field dependent readers would have more trouble reconstructing the deep structure of the text in accordance with their own existing concepts and experiences, and in reorganizing the new information into concepts as they read. Lastly, it appeared valid to argue that a field dependent reader would display different reading strategies from those of field independent readers. By using less "inside" information to process meaning, field dependent readers would be more dependent upon relevant graphophonic cues than upon semantic and syntactic cues.

Hypotheses

The investigation of the first research question was through nine general hypotheses (of which three - relating to above average (H1), below average (H2), and combined above and below average (H3) field dependent and field independent readers - are examined below) focussing on differences between field dependent and field independent readers on each of Goodman's miscue categories. These hypotheses are shown in summary form in Figure 2.

Insert Figure 2 About Here

Method

Sixteen Grade 8 students were chosen as subjects from a larger population of 358 from a Townsville State High School. Eight field dependent subjects were chosen, four of whom were below average readers and four above average readers. Eight field independent subjects were also chosen, four of whom were below average readers and four above average readers. Therefore the sixteen subjects were classified into four groups (four subjects in each group): field dependent below average readers, field independent below average readers, field dependent above average readers and field independent above average readers. All subjects classified as below average readers were below average on both vocabulary and comprehension. Similarly, all subjects classified as above average readers were above average on both vocabulary and comprehension. There were no significant differences between mean intelligence scores of the four groups (see Table 1).

Insert Table 1 About Here

Two History and Biology texts were selected from Nila Banton Smith's "Be a Better Reader" Series, Foundation Book and Book Four, as suitable content reading material. The texts were modified using Elley's Noun Frequency Method, and Fry's Readability Graph, in an attempt to achieve

comparable difficulty of History and Biology texts for both above and below average readers. Both texts were re-written to grade 6 level for below average readers and grade 11 for above average readers.

Cognitive style scores were determined by Witkins' Group Embedded Figures Test. Reading ability was determined on the scores of the Vocabulary and Comprehension sub-tests of the Progressive Achievement Test. I.Q.s were determined for the below average readers by averaging each subject's I.Q. on the OTIS and Raven's Progressive Matrices Test. For the above average group, the OTIS score only was used.

Each subject was given the appropriate History and Biology texts to read. The oral reading miscues from each subject's reading were recorded, coded and analyzed by the procedure outlined in the Goodman and Burke (1972) Reading Miscue Inventory Manual together with an additional question (after Goodman and Burke, 1973) relating to miscues in the visual field periphery*. Inter-coder and intra-coder agreement coefficients were determined for both categorizing and coding each miscue and generally ranged from 0.85 to 0.99. All intra-coder agreements, with the exception of 'meaning change' (0.79), approached unity. The lowest inter-coder agreements were 0.81 'grammatical acceptability', 0.71 'semantic acceptability' and 0.56 'meaning change'. The

*For an outline of the coding system see Appendix A.

difficulty with each of these categories appeared to be the lack of precision over the boundary between yes/extensive and partial/minimal.

A Mann-Whitney U test was used to determine statistically whether field dependent subjects differed from field independent subjects in their use and proficiency of reading strategies, and whether field dependent-field independent subjects differed in their use and proficiency of reading strategies with History and Biology texts stories. Because of the exploratory nature of the study and the small number of subjects involved, it was decided to concentrate on determining trends in the data. Also, mindful that the Mann-Whitney test has a higher probability of committing a Type II error (accepting the null hypothesis when it is false) - see Zar (1974), a probability level of 0.1 was accepted as indicating a significant trend for one-tailed tests and 0.2 for two-tailed tests.

Results

In terms of miscue patterns more proficient reading strategies would be characterized by fewer miscues per hundred words; a higher number of identical grammatical function miscues; more corrections (avoiding overcorrection); more grammatically and semantically acceptable miscues; less meaning change; higher comprehension; more grammatical relationships; more miscues in the visual

peripheral field; less substitution, more omissions, insertions and reversals; and higher retelling scores. The results in relation to Research Question 1 may be summarized as below.

1. Field dependent below average readers used less proficient reading strategies compared with field independent below average readers. Specifically, field dependent readers made significantly fewer miscues with the same grammatical function, fewer corrections, fewer grammatically acceptable miscues, more miscues reflecting loss of comprehension, fewer miscues with strength in grammatical relationships, and had more miscues in the doubtful visual periphery than did their field independent counterparts (see Table 2 and Graph 1).

Insert Table 2 and Graph 1 Above Here

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2. Field dependent above average readers used less proficient reading strategies compared with field independent above average readers. Specifically, field dependent readers made significantly fewer miscues per hundred words, more graphically similar and sound similarity miscues, more over-corrected (or less acceptable) grammatical

relationships, more miscues not in or near the visual peripheral field, more correction miscues, and more grammatically identical miscues than did their field independent counterparts (see Table 3 and Graph 2). The latter difference is the reverse of the predicted

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Insert Table 3 and Graph 2 About Here

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direction. The explanation of this occurrence isn't clear. It may well be due to proficient field dependent readers focussing on the surface structure level, while their field independent counterparts are continuing to guess the underlying deep structure responding less accurately to the syntactic features of the surface structure of the reading material.

The tendency for field dependent above average readers to make more correction miscues is also the reverse of the predicted direction. However, the result may not necessarily indicate that field dependent readers are monitoring more effectively than field independent readers. It may be that the field dependent above average reader is intent on giving an exact oral rendition of the text, as he/

she corrects both 'good' and 'bad' deviations from the text. An inspection of the relevant miscue profiles showed that the comprehension patterns of field independent readers have a higher percentage of miscues in the 'No Comprehension Loss' category than field dependent readers. The grammatical relationship pattern for above average readers showed field dependent readers to have a higher percentage of overcorrection miscues than do field independent readers. Thus it appears that although field dependent readers made more corrections, they made less profitable corrections and lost more meaning than did the field independent readers.

3. Combined above and below average field dependent readers used less proficient reading strategies compared with combined above and below average field independent readers. Specifically, field dependent readers made significantly less grammatically acceptable miscues, weaker grammatical relationship patterns, fewer miscues in the near and extended visual peripheral field, and lower retelling scores than field independent readers (see Table 4 and Graph 3).

Insert Table 4 and Graph 3 About Here

[Note: By way of satisfying one's curiosity in relation to Research Question 2, we feel we should indicate that analyses of the relevant data revealed no evidence of text match/mismatch with cognitive style for either below average or above average readers. In terms of differences in miscues in reading History and Biology texts, both below average and above average field independent readers showed greater differences in miscue patterns between History and Biology texts than did their field dependent counterparts. However, below average readers (regardless of cognitive style) used better reading strategies with History texts while above average readers (regardless of cognitive style) used better reading strategies with Biology texts.]

Discussion

Bearing in mind the exploratory nature of the study and in particular the small sample size, the results suggest that the research question should be answered in the affirmative. Based on their miscue profiles, field dependent and field independent readers do appear to use different reading strategies as they process meaning from print.

The field dependent-field independent below average reading comparison shows that both groups of subjects used the graphophonic cueing system to a similar extent; however,

the syntactic and semantic cueing systems were more widely used by the field independent readers. It appears that it is not the external information reaching the reader which is causing greater meaning loss for below average, field dependent readers, but rather the internal semantic and syntactic information supplied by the reader. The field dependent reader tends to deal with the field in a passive, spectator manner relying on external referants as mediators in information processing. Put another way, the study tends to suggest that the field dependent below average reader brings less 'inside-out' information to the reading task and samples the field less effectively than does the field independent below average reader.

The comparisons of field dependent and field independent above average readers generally support the differences in reading orientation demonstrated by the below average readers - except that above average field dependent readers appeared to be so intent on giving an exact oral rendition of the text that meaning of the text was lost. It would seem that the field dependent above average reader attended to the graphophonic cues *per se* rather than using them as a means to sample and confirm predictions about the meaning of the text.

Field dependent readers, irrespective of their level of reading achievement, appear to have used less efficient sampling, selecting, and predicting strategies and less syntactic and semantic informational cues than did their

field independent counterparts. Similarly, field dependent readers were less able to generalize from information read in the texts - presumably because they need an external source to act as mediator in organizing and restructuring information for processing.

So what does it all mean?

We began our research in 1976 on the basis of prior research by Witkin *et al.* (1962, 1977) who suggested that a variable called cognitive style could help explain individual behaviour and that it was pervasive across many areas of one's life. At this time some three thousand studies have been conducted with cognitive style as a variable.

Apart from intelligence, there are few variables that, by themselves, account for more than a few percent of the variance in any dependent variable. That is not to say that they are unimportant. To the contrary, each one adds to our understanding of the complexity of any particular aspect of human behaviour.

The evidence presented in this paper suggests that cognitive style is one such variable which helps us understand how different children - field dependent-field independent process meaning from print. We cannot stress too strongly that there is no polarity of good and bad in this dimension - there are above average readers who are

field dependent and below average readers who are field independent. Inevitably, then, we are faced with the ways each individual processes meaning in any context, and for us the primary context is the classroom.

This paper has sought to use miscue analysis as a vehicle for unfolding the reading process and to identify the differing reading strategies of field dependent-field independent students.

In a summary such as this we might concentrate for a moment on the reading teacher and ask, "what direct impact on my teaching can there be from this pilot research?" If we phrase the question that way then perhaps we should focus on point 1 of our results which deals with below average readers. These were the points:

1. fewer miscues withthe same grammatical function
2. less correction
3. fewer grammatically acceptable miscues
4. more miscues showing loss of comprehension
5. more miscues in the doubtful visual periphery.

We have established that the field dependent student is more constrained by the learning context than his field independent counterpart. In particular, we would observe that oral reading is inappropriate for content readers. Oral reading requires word by word accuracy. This constrains field dependent students so that they sacrifice reading for meaning, for accuracy. As well, attempts to

correct inaccurate responses, seem to be dominated by graphophonic cues - the most immediately available = the most salient. Field dependents tend to be "outside-in" (already referenced) and more susceptible to cues in the surface structure of the message. On the other hand, the field independents sacrifice accuracy for meaning, skimming ahead to confirm their expectations.

Thus, it is recommended that content reading should be silent reading. This reading of text material should be undertaken only after sufficient attention has been given to the development of the new vocabulary and concept, so that successful reading is ensured.

We also offer the comment that technical style makes content reading more difficult. A different writing style and methods of organising data, e.g. graphs, time lines are employed by each content area. This study indicated that field dependent students were not using syntactic cues effectively. This may be a result of the constraint to use graphophonic cues in oral reading, but the importance of teaching students how to process the technical language should not be overlooked.

From a cognitive style viewpoint the "figure" may need to be lifted from the "background" before perception can adequately function. That is, the text may need to be "taken apart" and put back together again - concepts explained, passage diagrammed to reveal the story line

and its interrelationships, what is the essence and what the quintessence. Showing students how to summarise, paraphrase and precis should help.

It might also be helpful to recall that field dependent students are highly motivated on a socia dimension and that learning in a context of sharing - caring can facilitate the increase of "time on task" a significant variable for these low achieving students.

We conclude with the view we expressed in the first paper in the series that differences in the cognitive style of learners have implications for the traditional roles of teachers - particularly in relation to the reading curriculum. In summary, the primary roles of the teacher become those of a learning diagnostician and program director in which she matches appropriate reading materials, learning contents and the learning styles of individual children or groups of children. The inference is that because of the known variation in cognitive styles, no one instructional program or no one teaching strategy is appropriate for all children.

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Figure 1

Research Model

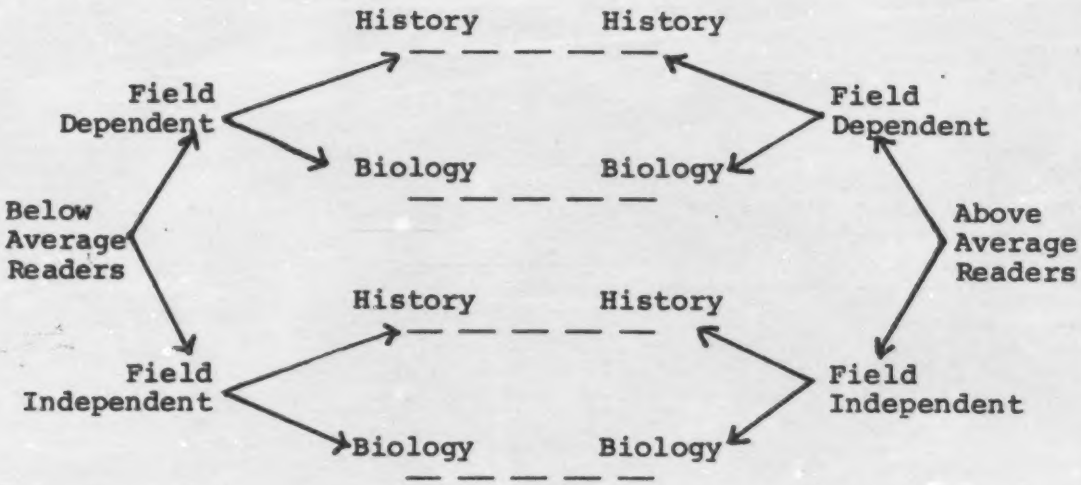


Figure 2

Research Hypotheses

In relation to each of above average readers (H1), below average (H2), and combined above and below average readers (H3), the reading performance of field dependent and field independent subjects on material matched for reading difficulty will reveal that, compared with field independent subjects, field dependent subjects make

1. less miscues per hundred words *(MPHW)*;
2. more *dialect uncoded* and *dialect coded* miscues;
3. more *intonation* miscues;
4. more *graphically similar* miscues;
5. more *sound similar* miscues;
6. less miscues with the *same grammatical function*;
7. less *corrected* miscues;
8. less *grammatically acceptable* miscues;
9. less *semantically acceptable* miscues;
10. more miscues involving *extensive meaning change*;
11. less miscues with *no comprehension loss*;
12. less miscues with *strength in grammatical relationships* and more *overcorrected miscues*;
13. more miscues *not involved in the visual peripheral field*; and less miscues in the *near and extended peripheral field*;
14. more *substitution* miscues; less *insertion* miscues; less *omission* miscues; and less *reversal* miscues;
15. poorer retelling scores for *generalization, major concepts, specifics* and *total retelling scores*.

Table 1

Group Characteristics

Reading Ability

Cognitive Style	Above Average	Below Average
Field Dependent	(N=4) M = 2 F = 2 $\bar{X}$ Age = 153.50 mths $\bar{X}$ IQ = 111.25 $\bar{X}$ CogS= 3.25* $\bar{X}$ Voc = 6.25† $\bar{X}$ Comp= 7.00†	(N=4) M = 2 F = 2 $\bar{X}$ Age = 154.50 mths $\bar{X}$ IQ = 109.00 $\bar{X}$ CogS= 4.00* $\bar{X}$ Voc = 2.25† $\bar{X}$ Comp= 2.75†
Field Independent	(N=4) M = 2 F = 2 $\bar{X}$ Age = 152.00 mths $\bar{X}$ IQ = 113.50 $\bar{X}$ CogS= 16.25* $\bar{X}$ Voc = 6.75† $\bar{X}$ Comp= 6.50†	(N=4) M = 2 F = 2 $\bar{X}$ Age = 156.25 mths $\bar{X}$ IQ = 107.00 $\bar{X}$ CogS= 15.50* $\bar{X}$ Voc = 2.75† $\bar{X}$ Comp= 3.00†

*Cognitive style scores range from 0 - 18. Scores 0 - 9 identify Field Dependent students and 10 - 18 Field Independent students.

†Vocabulary and Comprehension Scores are expressed as stanines.

Table 2

Differences in Miscues Between Field Dependent and Field Independent Below Average Readers

Miscue Category	$\bar{X}$FD	$\bar{X}$FI	υ Value	*p*
Identical Grammatical Function	73.0	83.4	15	0.05
Correction	29.0	38.0	13	0.1
Non-Corrections	68.5	60.0	14.5	0.1
Grammatical Acceptability	64.5	79.5	16	0.025
No Comprehension Loss	43.5	57.5	13.5	0.1
Grammatical Relationships	58.0	70.5	14	0.1
Weakness in Grammatical Relationships	17.5	8.0	13	0.1
Doubtful MC Visual Periphery	4.2	0.5	15	0.1

Table 3

Differences in Miscues Between Field Dependent and Field Independent Above Average Readers

Miscue Category	$\bar{X}$FD	$\bar{X}$FI	υ Value	*p*
MPHW	3.0	6.2	13	0.1
High Sound Similarity	77.0	66.0	13	0.1
Identical Grammatical Function	80.5	73.5	13.5	0.1
Different Grammatical Function	17.5	26.0	13.5	0.1
Corrections	40.0	31.0	13	0.1
Overcorrected Grammatical Relationships	9.5	3.0	14	0.1
Not in Visual Peripheral Field	72.8	62.8	13	0.1
Near and Extended Visual Field	27.0	37.5	13	0.1

Table 4

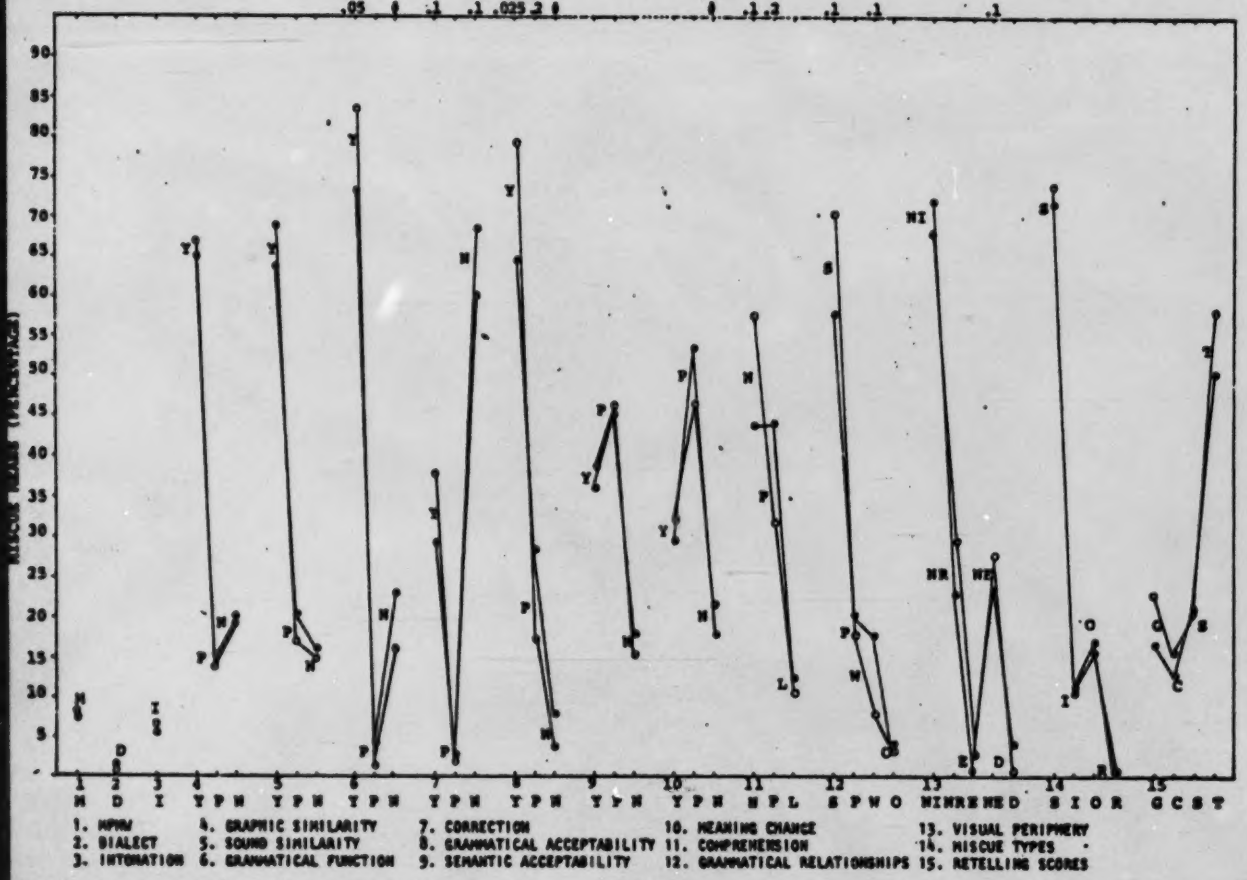
Differences in Miscues Between Field Dependent and Field Independent Readers - (Above and Below Average Readers Combined)

Miscue Category	$\bar{X}_{FD}$	$\bar{X}_{FI}$	U Value	*p*
Grammatically Acceptable	64.5	71.8	47	0.1
Weakness in Grammatical Relationship	17.9	12.2	48.5	0.1
Near and Extended Visual Peripheral Field	25.4	34.8	48.5	0.1
Doubtful Miscues in Visual Peripheral Field	2.4	0.2	49	0.1
Retelling Generalization	17.8	20.8	35	0.1

GRAPH 1: MISCUE PATTERNS FOR FIELD DEPENDENT-FIELD INDEPENDENT BELOW AVERAGE EIGHTH GRADE READERS COMBINING RESULTS ON BOTH HISTORY AND BIOLOGY TESTS

LEVELS OF SIGNIFICANCE

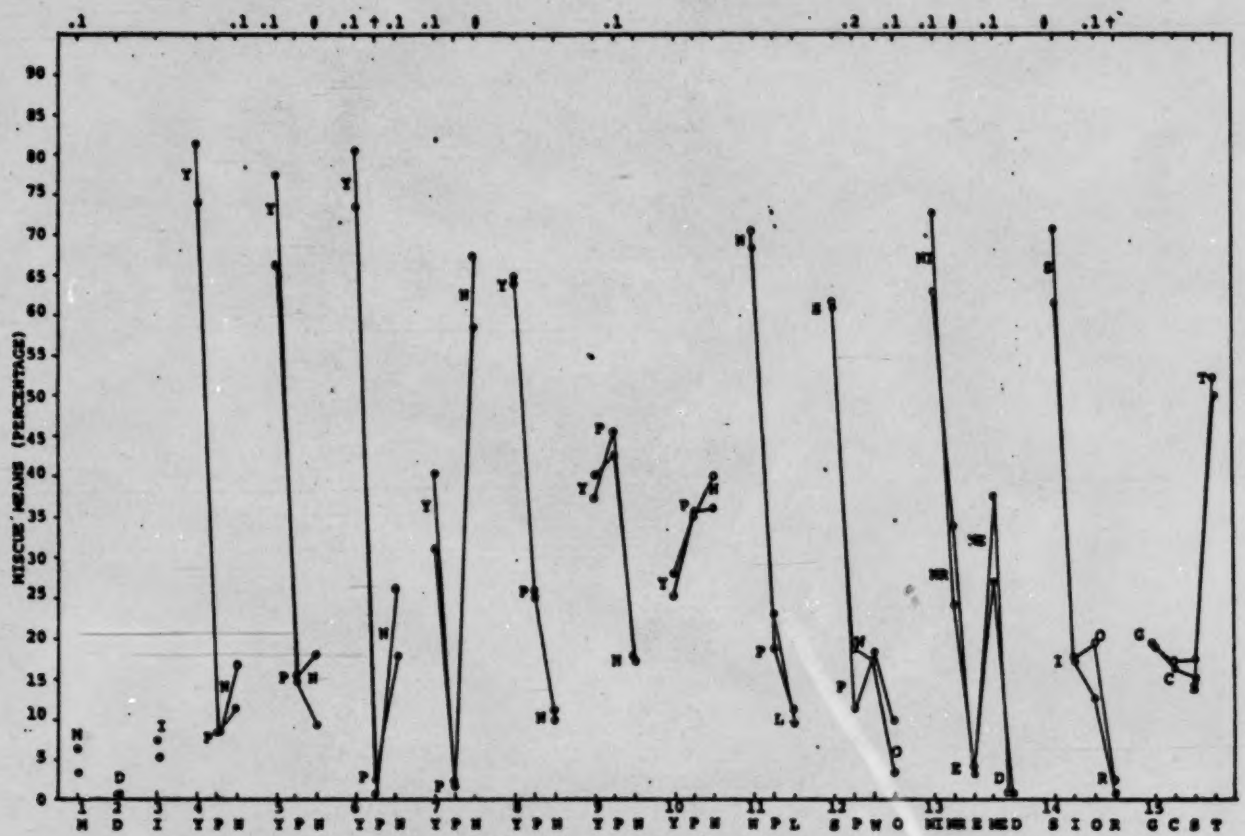
Almost Significant (0) one tailed test (†) two tailed test



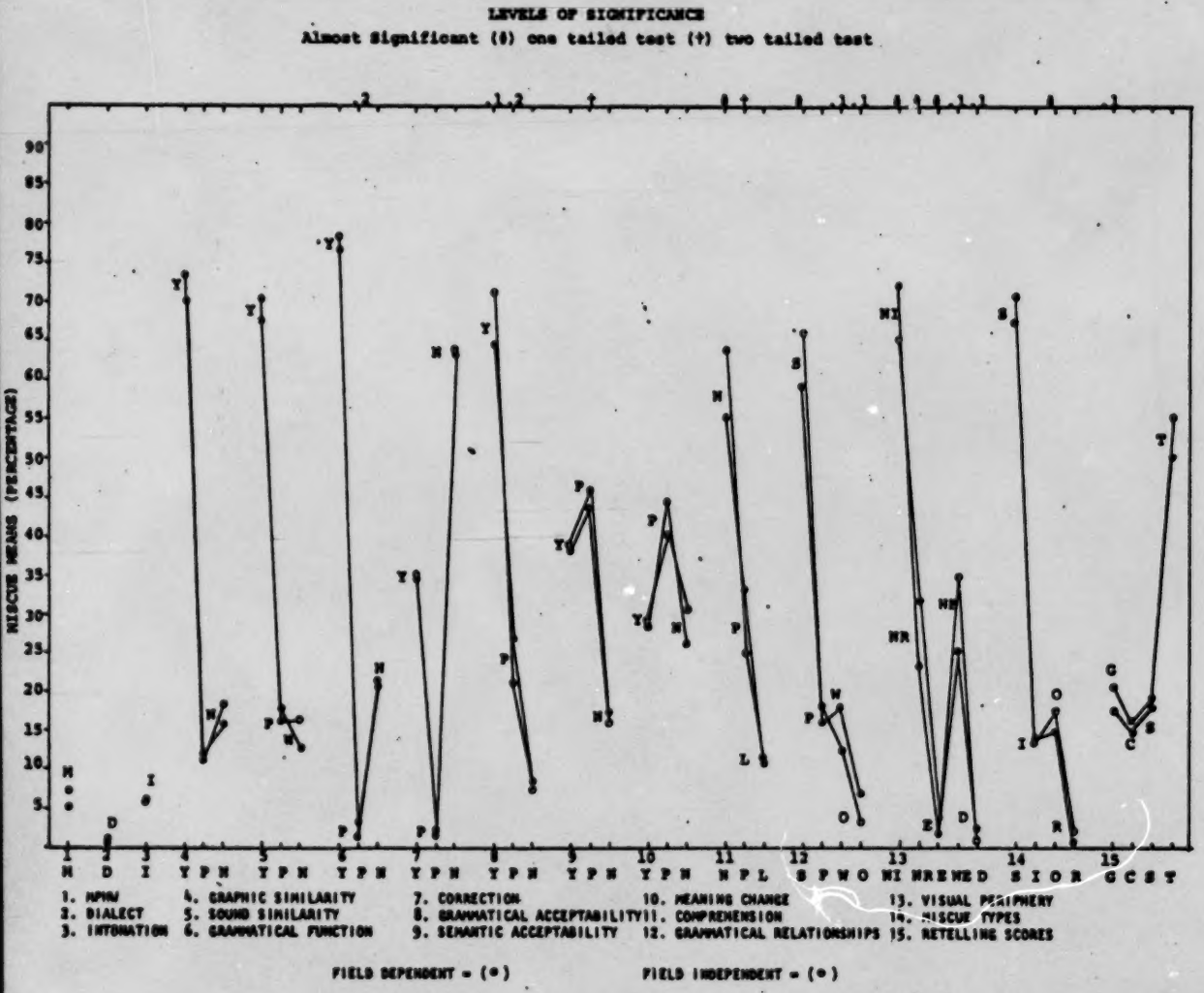
GRAPH 3: MISCUE PATTERNS FOR FIELD DEPENDENT-FIELD INDEPENDENT ABOVE AVERAGE EIGHTH GRADE READERS COMBINING RESULTS ON BOTH HISTORY AND BIOLOGY TEXTS

LEVELS OF SIGNIFICANCE

Almost Significant (#) one tailed test (†) two tailed test



GRAPH 3: MISCUE PATTERNS FOR FIELD DEPENDENT-FIELD INDEPENDENT COMBINED ABOVE AND BELOW AVERAGE EIGHTH GRADE READERS COMBINING RESULTS ON BOTH HISTORY AND BIOLOGY TESTS



Appendix A

Miscue Coding System

The coding unit is a *miscue* which may be defined operationally as "any variation from the expected response (any variation in the actual text) that the listener has been able to detect." (Goodman, 1973, p.3)

"The variations which Goodman typically detected manifested themselves in 5 different categories of miscue:

1] Insertions: Items added to those already in text

2] Omissions: Items deleted from those which appear in the text

3] Substitutions: An item is substituted for one in the text

4] Reversals: The relative position(s) of a (some) text item(s) is (are) altered

5] Regression: A portion of the text is repeated

Categories 1 through 4 are mutually exclusive forms of variation, whereas category 5 can co-occur with the other categories and is coded in relationship to them."

(Cambourne, 1977)

Sample: Miscues Selected for Coding from Mike's Marked Worksheet
See page 34.

THE READING MISCUE INVENTORY
(Goodman & Burke, 1972)

READING MISCUE INVENTORY CODING SHEET

(pp. 46-47)

Reader Mike Date Selection Space Bt.

Miscue Number	Reader	Text	DIALECT 1	INTONATION 2	GRAPHIC SIMILARITY 3 Y	P	N	SOUND SIMILARITY 4 Y	P	N	GRAMMATICAL FUNCTION 5 Y	P	N	CORRECTION 6	GRAMMATICAL ACCEPTABILITY 7	SEMANTIC ACCEPTABILITY 8	MEANING CHANGE 9	COMPREHENSION No Loss	Partial Loss	Loss	GRAMMATICAL RELATIONSHIPS Strength	Partial Strength	Weakness	Overcorrection
101-1	Kennel	kennel																						
102-2	the	a																						
104-3	swim	Swam																						
105-4	—	Blank																						
105-5	wants	wanted																						
106-6	swam	swam																						
106-7	.	—																						
108-8	—	Classick																						
110-9	annie	annaical																						
114-10	heard	had																						
115-11	Classe	Classick																						
118-13	—	small																						
118-14	saw	saway																						
119-14	and	at																						
119-15	have stayed	stay																						
121-16	Sat	—																						
201-17	saysit	saway																						
204-18	$ saying	saway																						
205-19	it down	down it.																						
206-20	Steve's	Steve's																						
209-21	—	a																						
215-22	—	spaces																						
205-23	could not	couldn't																						
206-24	... mules	rules																						
207-25	just	but																						
		COLUMN TOTAL																						
		PERCENTAGE																						
		QUESTION TOTAL												PATTERN TOTAL										

Reading Miscue Coding System

1. MPHW. Miscues Per Hundred Words.
2. Dialect. Is a dialect variation involved in the miscue?

   Coded: Yes (Y), No (Blank)
3. Intonation. Is a shift in intonation involved in the miscue (pitch, stress or pause from what is expected)?

   Coded: Yes (Y), No (Blank). (This is coded as a miscue only when changes in grammatical structure of a passage occurs).
4. Graphic Similarity. How much does the miscue look like what is expected?

   Coded: high (Y), some (P), or none (N).
5. Sound Similarity. How much does the miscue sound like what is expected?

   Coded: high (Y), some (P), or none (N).
6. Grammatical Function. Is the grammatical function of the miscue the same as the grammatical function of the word in the text?

   Coded: identical (Y), or not possible to determine (P), different (N).
7. Correction. Is the miscue corrected?

   Coded: corrected (Y), unsuccessful attempt or correct response abandoned (P), no attempt at correction (N).

8. Grammatical Acceptability. Does the miscue occur in a structure which is grammatically acceptable?
   Coded: acceptable (Y), acceptable to read, but not in relation to prior and subsequent sentences in the text (P), or not acceptable (N).
9. Semantic Acceptability. Does the miscue occur in a structure which is semantically acceptable?
   Coded: acceptable (Y), acceptable as read, but not in relation to prior and subsequent sentences in the text (P), or not acceptable (N).
10. Meaning Change. Does the miscue result in a change of meaning?
    Coded: extensive (Y), minimal (P), and no change (N).
11. Comprehension. The Comprehension pattern relates to the magnitude of meaning loss by the combination of questions 6 (Correction), and 8 (Semantic Acceptability) and 9 (Meaning Change). Code categories for comprehension are: no comprehension loss (N), partial comprehension loss (P), and loss of comprehension (L).
12. Grammatical Relationship. The Grammatical Relationship pattern gives insight as to how concerned the reader is that his oral reading sounds like language. It is obtained by combining questions 6 (Correction), 7 (Grammatical Acceptability) and 8 (Semantic Acceptability). It is coded in terms of subject's strength (S), partial strength (P), weakness (W) and overcorrection (O).

13. Visual Periphery: The 13th question was from the Goodman and Burke (1973) report. The question states:

'What influence has the surrounding text (peripheral visual field) on miscues'? The visual periphery is not involved in the miscue(NI); the miscue can be found in the near visual periphery (NR): the miscue can be found in the extended visual periphery (E); it is doubtful whether the visual periphery was involved in the miscue (D).

14. Miscue types. These are classified into one of the following categories: substitution (S), insertion (I), omission (O) and reversals (R).

15. Retelling Scores. Points are given for subjects retelling score on, generalizaions (G); major concepts (C), specifics (S) and total retelling score (T).